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THE *NOTATUS* GROUP OF *SPHAERODACTYLUS* (SAURIA, GEKKONIDAE) IN HISPANIOLA

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INTRODUCTION

Some years ago while identifying *Sphaerodactylus* from Hispaniola, it came to my attention that several different forms had been allocated to *"Sphaerodactylus difficilis,"* or *"Sphaerodactylus notatus difficilis"* and that this nominal species was a veritable waste basket for any species (or subspecies) showing any resemblance to it at all. I therefore tried to see what could be done to clear up this puzzle. It was soon seen that related forms occurred outside of the region. However, in order that a beginning could be made, and so that the whole undertaking would not get out of hand, I decided to confine my study to the *notatus* group on the island of Hispaniola (and its nearby smaller islands). Extralimital forms were indeed studied to gain an idea of the status of the forms revised, but no extralimital forms were themselves reviewed, though references to them will be found in the text.

Thirteen taxa are discussed herein, including not only forms obviously close to *notatus* but also those less closely related but formerly confused with *notatus* relatives.

METHODS

A number of scale counts are employed here which have not previously been commonly used in this genus. The dorsal scales are counted on a line from the rear of hind limb to the front of fore limb. This count is made just to one side of the vertebral line. Another scale count is made around the body at midbody. Midbody is taken as the point midway between the rear limit of the insertion of the fore limbs and the forward limit of the insertion of the hind limbs. The standard distance, as used here, is about the same as previous usage for this term; i.e., the distance between the end of the snout and the middle of the eye is projected on the dorsum, equally distant from the rearward limit of the fore limbs and the forward limit of the insertion of the hind limbs, respectively. Again, a position just alongside the vertebral line is taken for this longitudinal count.

The lamellae under the fourth toe are counted from the first lamella at the separation of the digit, up to, but not including, the terminal "disk." Either right or left foot is used for this count, depending on the suitability and position of the fourth toe for the count. Sometimes, when doubt has existed, both sides have been counted.

The phrase "scapular spot," as used here, applies to the dark marking often present on the back in the shoulder region, with frequently one or two white spots within it or else white border markings, developed in varying degree.

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SPHAERODACTYLUS NOTATUS DIFFICILIS Barbour

Sphaerodactylus difficilis Barbour, 1914: 265, Santiago de la Vega, San Domingo = La Vega, La Vega, Dominican Republic; Barbour, 1921: 241 (part); Mertens, 1939: 42 (part); Cochran, 1941: 115 (part).

Description. The supranasal scales are usually separated, the granular dorsal neck scales do not extend to the insertion of the fore limb. The ventral scales are not usually keeled at all, although the dorsals are, as in all members of the group. The scale counts for 137 individuals are: (5) 6-9(10) scales in standard distance, going to 11 in subadult specimens, 28-43 dorsal scales between rear of hind limb and front of shoulder, 39-54 scales around the body at midbody, (9)10-13(14) lamellae under the fourth toe. In coloration the female has three longitudinal dorsal dark stripes on the head and neck, sometimes extending further, with varying amounts of spotting elsewhere dorsally. The male color shows dorsal spotting, frequently confined to the neck and anterior part of the back but also quite often extending onto the head and the rest of the back. Sometimes dorsal marking is practically obsolete. Below, spotting or darker washing is mostly confined to underside of head and throat but sometimes more extensive. The scapular spot present in females is frequently absent in the adult male coloration. The largest head and body measurement is 33 mm (MCZ 63184 and 63191, both females from Bombardopolis, Haiti).

Originally described as a full species, *difficilis* appears barely separable from *S. notatus* races (the type locality of typical *notatus* is Key West). In general, Cuban specimens seem to resemble those from Key West rather than those from the islands of the Great and Little Bahaman banks, although those from various localities in Cuba also show some geographical variation, the evaluation of which is beyond the scope of this work.

My own comparison of Key West examples and Cuban specimens[1] from various localities with what I consider *difficilis* shows a usually less stocky build in the latter. The middle head stripe of the female and immature coloration of *difficilis* usually narrows or stays about the same width as it proceeds posteriorly and has decidedly uneven edges, whereas in Key West and Cuban specimens this stripe is likely to have more even edges and widen as it extends posteriorly.

The scale counts of Cuban and Key West animals (6 of each) follow: 6-7 scales in standard distance, 26-30 dorsal scales between rear of hind limb and front of shoulder, 37-47 scales around the body at midbody, (8)10-13 lamellae under the 4th toe, the figure in parentheses representing one specimen. The corresponding counts for 137 *difficilis* follow: (5)6-9(10) (reaching 11 in subadult examples), 28-43, 39-54, (9)10-13(14). As can be seen, the dorsal count between the rear of hind limb and front of shoulder shows the least overlap.

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[1] In a recent work, Schwartz, 1966, recognized a number of races of Cuban and Bahaman *notatus*. Actually, the *notatus* specimens used are a composite of the races separated by Schwartz (1966). He confines typical *notatus* to Key West and part of the Florida mainland.

As just mentioned, there is considerable variation in the Hispaniolan population. It was at first thought that the population from Haiti and the northwestern part of the Dominican Republic was separable from the rest, on lower scale counts, but there is considerable overlap. In Puerto Plata, Sosua, and to a less extent in Sabana de la Mar specimens, there is a tendency for head streaks of the female to break up into spots. In those from the first two localities, there is a tendency for the scapular spot not to persist in the adult. As in most examples of this form, there are two white spots within the scapular spot. Los Bracitos females, the two specimens from near Peña (the latter subadult), and two of three females from Licey Almedio near Tamboril[1] (the third with obsolete scapular spot), show only one white spot there. In those from Los Bracitos the spot appears to represent the fusion of two spots. One of the two males from Pascal Island shows black spotting on a whitish head. The specimen from the unlikely locality of Paradis will be discussed below under *S. n. randi*.

At all events, the variation mentioned above does not seem to be sufficient or consistent enough, geographically, to warrant further division into races.

Material examined: HAITI. *Departement du Nord Ouest.* Bombardopolis: MCZ 63174-63217; Port de Paix: MCZ 63219-21. *Departement du Nord.* Cap Haitien: AMNH 50117, MCZ 63233; Grande Rivière: MCZ 9365-6; Ti Guinin near Cap Haitien: MCZ 66283. *Departement de L'Artibonite.* Hinche: BM 1948.1.4.27-30. DOMINICAN REPUBLIC. *Monte Cristi.* El Ahogado, near Monte Cristi: AMNH 42142-3; Monte Cristi (from houses): AMNH 41995-6; 1½ miles west of Monte Cristi: AMNH 42148-9, and five untagged specimens; small island in Monte Cristi Bay: AMNH 42140; Muertos Island, Siete Hermanos: USNM 76718-23. *Puerto Plata.* Puerto Plata: MCZ 5444 (paratype), AMNH 41340, 41975-7; Sosua: MCZ 13663. 43664-6, 44400, USNM 121521-2. *Samana.* Pascal Island, Bay of Samana: AMNH 41979-85; Sanchez: MCZ 44395-6. *Santiago.* Licey Almedio, near Tamboril: MCZ 78732-5; 3 km south of Peña: MCZ 57822-3.

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[1] Tamboril is apparently a different name for the locality referred to above as Peña.

La Vega. La Vega: MCZ 7834-5 (type and paratype). *Duarte.* Los Bracitos: AMNH 45201-2, 45204, 45206-7, 45209-12, 45214-5, 45217-20. *Seibo.* Sabana de la Mar: AMNH 41992-3, 50047, 50122-4, 50232, MCZ 57824-6, 57831-3. *Barahona.* Paradis: AMNH 51466. *Distrito Nacional.* Santo Domingo City: SU 14694. *San Pedro de Macoris.* 31 mi. east of Santo Domingo City: AMNH 49990-2.

Field notes. Through the courtesy of Miss Alice G. C. Grandison, the following color note has been supplied for the series from Hinche by the collector, Ivan Sanderson: "Upper surfaces fawn brown, prominently spotted with jet black. Spots tend to run into three lines on head, while on shoulders are a pair of well defined jet black spots bordered by an intense white point on either side. Underside of head and forebody pale gray and semi-transparent. Of limbs, lower belly and tail, same, but minutely speckled with black."

Identification aids. The three dorsal streaks in the female and immature coloration will serve to distinguish this form from all other Hispaniolan members of this group. Outside of its own races, probably most closely related to *S. b. brevirostratus,* so see identification aids for this form (p. 00).

The following form is named for A. Stanley Rand, co-collector of the type series and student of West Indian herpetology.

SPHAERODACTYLUS NOTATUS RANDI subsp. nov.

Holotype: MCZ 57839, female, from Oviedo, Pedernales, Dominican Republic, collected by Clayton E. Ray and A. Stanley Rand, August 20, 1958.

Paratypes: MCZ 57840-5, with the same data as the type; MCZ 57838, also with the same data as the type, except that the collecting date is August 19, 1958.

Diagnosis. The new form differs from *S. notatus difficilis* in apparently slightly higher scale counts as follows (the count of the type followed by those of the paratypes in parentheses); standard distance 8 (7-10); dorsal scales from rear of hind limb to front of shoulder 44 (36-40); around body at midbody 54 (48-52); lamellae under 4th toe 12 (12-13); also, *randi* appears to not grow quite as large as *difficilis.* In the female coloration there is no sign of the three head and nuchal stripes of typical *difficilis;* instead, above, there is much spotting, marking, and washing of a light brown ground color with dark brown; back of head showing ground color more than is shown elsewhere, a poorly developed scapular spot, a dark brown marking preceded by a curved whitish transverse streak, convexly directed anteriorly, followed by a dark spot, marked posteriorly by whitish; below, ground color about the same as above, stippled and washed with dark brown.

Most of the paratypes, above, show the same kind of markings as the type. However, the scapular spot is practically obsolete in some, and in only one, a male, takes the form of a black spot entirely borderd with whitish, which may represent the maximum in its development. There is also variation in the spotting, particularly on the head and neck. Whitish spots and markings are present in some. Two show a faint marking on the back of the head and neck, somewhat reminiscent of that of *S. b. brevirostratus,* described below. Below, the markings are like those of the type, except that they are stronger in some.

Of the four male paratypes, two apparently have not lost the female or immature coloration. The two showing what is apparently the adult male coloration, above, have lost much of the dorsal markings, the head being whitish with dark brown or black spots above and below, including throat; otherwise, below, marked similarly to the rest of the type series. Even the males with the female or immature pattern are decidedly spotted under the head and on the throat. The females show little of this.

The male coloration of *difficilis* somewhat resembles the female coloration of *randi,* although it usually shows less dense markings. However, some males of *difficilis* resemble those of *randi.*

Measurements (in mm). Type, MCZ 57839: length, head and body, 29; length of tail, 26. Largest paratype, MCZ 57840: head and body, 27; tail regenerated.

Remarks. It might be supposed that this form is the representative of *difficilis* in the Barahona Peninsula, but a specimen from Paradis (Paraiso) appears to be a male *difficilis.* It has the reduced spotting characteristic of a male of that form, especially reduced on the head, with the scale counts being a bit low for *randi* although barely within the limits of that form, except for the rear of hind limb to front of shoulder count which is one below the limit for *randi.* Also, the head and body length is one millimeter more than the maximum for *randi.* The counts for this specimen, AMNH 51466, are: standard distance 8, dorsal scales between rear of hind limb to front of shoulder 35, around midbody 48, lamellae under 4th toe 12. It is possible that the locality data for this animal may be incorrect.

Identification aids. This has essentially the scale characters of *S. n. difficilis* but differs in counts and color, as stated in the diagnosis.

Another race of *notatus,* described below, is named for Jay M. Savage because of his interest in this group.

SPHAERODACTYLUS NOTATUS SAVAGEI subsp. nov.

Sphaerodactylus difficilis: Grant, 1952: 187; 1956: 86; Savage, 1954: 328.

Holotype: SU 14695, a female, from La Romana, Altagracia, Dominican Republic, collected by Chapman Grant in December 1946.

Paratypes: SU 14696-708, with the same data as the type; MCZ 73900 from the same place, collected by Clayton E. Ray and Robert R. Allen, March 27, 1963.

Diagnosis. Apparently most closely related to *S. notatus difficilis* from which it differs in having larger scales, or at least lower scale counts, although there is considerable overlap. The scale counts follow, with those of the paratypes in parentheses: scales in standard distance 6 (6-7 and up to 8 in the immature); dorsal scales between rear of hind limb and front of shoulder 28 (27-34); scales around body at midbody 42 (36-44); lamellae under 4th toe 13 (11-14); and the limited extent of the male escutcheon, this not extending onto the leg. There is also a difference in color. The female coloration shows but little evidence of the head stripes of *difficilis,* only a rough tendency for the spots to form into lines, most notably the ones behind the eye. Males would appear to average more heavily spotted than those of *difficilis.* Subadult specimens, presumably of both sexes, instead of being spotted show a series of cross bars across the back, with two stripes extending back from each eye and joining on the back of the head in somewhat the same manner as in typical *brevirostratus* (to be described), the central stripe being mostly obsolete. Subadults also have an ill-defined scapular spot, the foremost dark band on the neck being followed by two whitish spots, this band being more conspicuous than those following. The scapular spot appears to disappear as the animal gets older, especially so in the male, but is entirely absent in the female type.

Measurements (in mm). Type, SU 14695: length, head and body, 32; length, tail, 26 (apparently regenerated). Largest paratype, SU 14696: head and body, 30; tail missing.

Identification aids. This is one of the two forms where the male escutcheon does not extend onto the leg. The other is *S. n. juanilloensis.* This, as far as known, is a character unique within the Haitian *notatus* group. Beyond this the racial diagnosis is covered under each form.

SPHAERODACTYLUS NOTATUS JUANILLOENSIS subsp. nov.

Holotype: MCZ 73901, a female, from Juanillo, Altagracia, Dominican Republic, collected by Clayton E. Ray and Robert R. Allen, March 29, 1963.

Paratypes: MCZ 73893-98, UF 21970-75, with the same data as the type. MCZ 73899, Dominican Republic, Altagracia, 1 km north of Boca de Yuma, collected by Clayton E. Ray and Robert R. Allen, March 27, 1963.

Diagnosis. Apparently most closely related to *S. notatus savagei* from which it differs in coloration. The coloration, notably the female and immature, resembles that of the immature *savagei.* It differs particularly in that the dorsal cross bands are arranged in pairs, the two bars of the pair separated by a narrow white area; the scapular spot in the female well developed, squarish, with two white spots in the middle, located as usual betwen the shoulders. In the male coloration there is also a tendency for the dark spots to form indistinct bars or at least to coalesce. In adults of both sexes of *savagei* there appears to be no tendency toward bar formation. The scale counts for *juanilloensis* follow, with those of the paratypes in parentheses: scales in standard distance 6 (5-7, one with 8, scale abnormality present, evidently scar tissue); dorsal scales between rear of hind limb and front of shoulder 29 (25-32); scales around the body at midbody 42 (40-48); lamellae under 4th toe 12 (12-14).

Measurements (in mm). Type, MCZ 73901: length, head and body, 26; part of tail missing. Largest paratype, UF 21972: head and body, 31, a female; tail missing.

Identification aids. See *S. n. savagei.*

The following form is named for James D. Lazell, Jr., the co-collector of the type specimen and other valuable herpetological material.

SPHAERODACTYLUS LAZELLI sp. nov.

Holotype: MCZ 63218, a male, from Cap Haitien (under bark of tree in shady gully), Departement du Nord, Haiti, collected by A. Stanley Rand and James D. Lazell, Jr., July 16, 1960.

Diagnosis. Possibly most closely allied to *S. notatus difficilis* with which it is sympatric, differing in lower scale count from rear of hind limb to front of shoulder, in having distinctly keeled scales on the throat, and in coloration, with a very prominent scapular spot and two black spots preceding it (female coloration unknown).

Description. Snout long, rather pointed, distance of eye from tip of snout greater than distance of eye to ear; rostral with median groove; nostril between rostral, first supralabial, a larger supranasal and three smaller scales, the third or lowest particularly small; supranasals separated by one scale; three large and one small supralabial to below center of eye, or a bit beyond; head above and on sides covered with small juxtaposed keeled scales, those on snout slightly enlarged; scales on back enlarged, somewhat elongate, keeled and subimbricate; the more granular scales of the neck appear well anterior to the forward level of the shoulder; 5 scales in standard distance; 25 dorsal scales between rear of hind limb and front of shoulder; 42 scales around the body at midbody; 11 lamellae under the 4th toe; mental somewhat larger than rostral; two large infralabials, followed by a small one, to center of eye; two enlarged squarish chin shields behind mental; behind scutes just mentioned, scales decreasing in size posteriorly to throat, increasing in size on throat and chest, and again on belly, smooth, except keeled on throat and forward up to chin shields; tail above with scales like dorsum but smaller; below, with scales like belly at base, but beyond, those on midline enlarged, especially nearer terminus (tail apparently regenerated, possibly twice).

Coloration in alcohol. Above, light brown, a large diamond-shaped scapular spot about on a level with the anterior border of the shoulders, with a white spot near each lateral corner. Preceding this are two prominent black or dark brown spots, both on the midline, one on the neck and the other on the occipital region of the head; an indistinct, dark brown streak from the rear of the supraocular region, on each side, to the anterior edge of the neck spot, another from each eye along the side of the head on to the neck. The body, limbs and tail are lightly spotted with black or dark brown, three spots just to the rear of the scapular spot being particularly prominent. There is a whitish chevron-shaped bar, with the apex directed rearward, a bit posterior to the base of the tail; a narrow crossbar of the same color on the tibia. Below, washed with dark brown, especially nearer the sides;

also lightly spotted with dark brown nearer side of throat and chest.

Measurements (in mm). Type, MCZ 63218: length, head and body, 31; length, tail, 29 (apparently regenerated).

Identification aids. The keeled throat scales will serve to separate this from all forms which have only smooth scales ventrally. From those that have keeled throat scales, the very large scapular spot and the two spots preceding it are a type of coloration not seen elsewhere in this group. However, the female of this form is not known. The dorsal scale count from the rear of hind limb to the front of the shoulder is lower than that of any other form, although with more material this might be found to overlap with *S. b. enriquilloensis,* a form with slightly keeled throat scales, in this character.

SPHAERODACTYLUS BREVIROSTRATUS BREVIROSTRATUS

sp. and subsp. nov.

Sphaerodactylus difficilis: Barbour, 1921: 241 (part); Cochran, 1941: 115 (part).

Holotype: MCZ 63234, a female, 5 km south of Dufort, south of Leogane, Departement de l'Ouest, Haiti, collected by A. Stanley Rand and James D. Lazell, Jr., July 31, 1960.

Paratypes: All from HAITI. *Departement de L'Artibonite.* Saint Marc: AMNH 49680, William G. Hassler, April 1935. *Departement de l'Ouest.* With the same data as the type: MCZ 63235-8; Boutillier Road near quarry: MCZ 64514, Ernest E. Williams and A. Stanley Rand, August 15, 1959; west of Carrefour: USNM 117307-8, Anthony Curtiss, May 11 and 15, 1943; Carrefour Feuille, Port-au-Prince: MCZ 64812-3, Ernest E. Williams and A. Stanley Rand, August 15, 1959; Damiens: AMNH 50120-1, William G. Hassler, May 2, 1935; Diquini: MCZ 64815-21, Luc Whiteman, March 10-11, 1961; Eaux Gaillées: MCZ 51315-6, Anthony Curtiss, April 22, 1950; "Ferronai": MCZ 13458, Glover M. Allen, August 1919; Furcy: USNM 124158, Anthony Curtiss, June 1944; Glore: USNM 118908-14, Anthony Curtiss, May 18, 1943; Hatte Latham: AMNH 90168-9, USNM 117151, Anthony Curtiss, December 7, 1946, and February 13, 1943; La Fond near Jacmel: MCZ 64822, Luc Whiteman, April 20, 1961; Manneville: MCZ 64804-11, Ernest E. Williams and A. Stanley Rand, August 13-14, 1959, CM 38882, George Whiteman, 1963, BM 1948.1.4.31-33, Ivan Sanderson, January

23, 1937; Mon Repos: USNM 69124, Gerrit S. Miller, Jr., March 5, 1925; Petionville: USNM 59185, Paul Bartsch and J. B. Henderson, April 1, 1917; Pont Beudet: BM 1948.1.4.34, July 12, 1937; 8 miles north of Port-au-Prince (fig tree in cotton field): AMNH 49588, 49590-1, William G. Hassler, April 18, 1935; Port-au-Prince: USNM 118867-70, Anthony Curtiss, USNM 59179 Paul Bartsch and J. B. Henderson, April 24, 1917, SU 14688-14693, Major Chapman Grant, December 18, 1941; Source Puantes: USNM 117159-64, Anthony Curtiss, November 18, 1943; Trou Caiman: USNM 117153-6, Anthony Curtiss, January 16, 1943; Trou Forban: USNM 117157-8, 118894, Anthony Curtiss, October 1942.

The locality "Ferronai" has not been located on the map, but has been listed under Departement de l'Ouest, as this seemed a likely place of origin, the majority of the localities being from there. Through the courtesy of Mrs. W. E. Schevill, I was able to examine the field journal of the collector, the late Glover M. Allen. The locality was not mentioned.

Diagnosis. Possibly most closely allied to *S. nicholsi* Grant from which the new form differs in having smaller scales (average larger scale counts), larger size, less short and blunt snout, and different coloration. Also related to, and in the past confused with, *S. notatus difficilis,* from which the new form differs in its smaller size, shorter and more blunt snout, more stocky build, in having larger scales (smaller average scale counts) and in coloration.

Description. (Paratype variation in parentheses.) Snout short, blunt; distance of eye from tip of snout slightly greater than distance of eye to ear; rostral with median groove; nostril between rostral, first supralabial, a large supranasal and two smaller scales; supranasals separated by one scale (in some, separated by two or more scales); three large and one small supralabial to below center of eye, head above and on sides covered with small juxtaposed keeled scales, those on snout enlarged; scales on back enlarged, elongate, keeled and subimbricate; the more granular scales of the neck appear anterior to the forward level of the shoulder (also in paratypes); 6 scales in standard distance (6-7 in adults, subadults going to 8); 31 dorsal scales between rear of hind limb and front of shoulder (28-35, and one example 38, with scale abnormality in the sacral region); 41 scales around the body at midbody (37-45); 10 lamellae under the fourth toe (9-12, only two instances of the last figure); mental somewhat larger than rostral; two large infralabials followed by a small one to center of eye; three small squarish chin shields behind mental; behind these the scales decreasing in size, posteriorly, to throat, increasing in size on throat and chest and again on belly, smooth (a very few throat scales very slightly keeled in a few of the paratypes); tail, above, with scales like dorsum but smaller and more imbricate and not keeled near terminus; tail, below, with scales like those of belly.

Coloration in alcohol. Above, ground color light grayish brown; on head a dark brown streak extending from end of rostral, where it is joined with its fellow on the other side of the head, the color on rostral being rather dark gray, extending through eye to back of head where it again joins its fellow, this time in a figure which resembles the top of a heart with the direction of the possible apex toward the snout. Within the area enclosed by these markings and to some extent just outside, the ground color becomes very pale; also several dark brown spots inside of this area, one behind eye and joining onto eyelid on each side, two others more or less between eyes and one on snout. Behind the top of heart-like figure on the back of the head is a second one, very similar to, but less well defined, and more or less joining the first and just behind it, both with a more or less distinct whitish border on the inner posterior margin. A distinct scapular spot consisting of an almost transversely oval blotch of black with a small white spot on each side near its lateral edge; just preceding the scapular spot is a thin, rearwardly curved, whitish, transverse line; elsewhere, back spotted with dark brown; the limbs spotted with the same, including white markings on the hind limbs; an obscure whitish streak at posterior side of body; a white streak bordered with dark brown along side of tail going on to rear of thigh; tail above spotted and marked with dark brown and white spots, no special marking at root of tail.

Below, whitish; longitudinal dark brown lines on venter, becoming more broken under head and neck.

In the female paratypes the head markings may be less heart-shaped, less well defined or broken, the hinder one sometimes being obscure or absent. Sometimes the head spots inside are reduced or absent or united with each other and the enclosing streaks in various ways.

In the males the head markings may be even more reduced or faint and in some are entirely absent, being replaced by small spots. In the males the scapular spot, although sometimes nearly obsolete, is very persistent; yet, USNM 117157, a female, is the only one which shows no trace of it. The paratypes from Trou Forban and Source Puantes, however, often show less development of the scapular spot than those from elsewhere.

Other variations are the reduction to almost total absence of the ventral markings in some specimens, and the variation in shape of the scapular spot which is sometimes more square or longitudinally elongate than in the type.

Measurements (in mm). Type, MCZ 63264: length, head and body, 22; length, tail, 20. Largest paratype (one) MCZ 64805: head and body, 26; tail, 27.

Remarks. In order that a comparison may be made with the scale counts of the new form, counts for *nicholsi* are supplied in the same order as they occur in the description: standard distance 6-7 (two adults and one subadult 7); rear of hind limb to front of shoulder 25-32; around body at midbody 35-40; lamellae under fourth toe 9-12 (two examples at 12). These counts were based on 18 *nicholsi.*

Some of the type series were found in leaf litter on the ground, while specimens AMNH 49588, 49590-1, from 8 miles north of Port-au-Prince, were collected on a fig tree in a cotton field.

S. n. difficilis is not known to occur with this new form anywhere.

Field notes. Through the kindness of Miss Alice G. C. Grandison, the following field notes have been supplied for the British Museum specimens collected by Ivan Sanderson: The three from Manneville were collected among leaves under thorns. The color was described as ". . . brown lighter to almost white below. Tail small, yellowish. Throat spotted with black, spots run in lines on belly. Flanks and dorsum likewise spotted, tending to run in lines on flanks." The Pont Beudet specimen was collected in a small mud house. The color was described as fawn, tail unspotted, head with black reticulum.

Identification aids. The usually prominent, dark, longitudinal, ventral streaks will serve to distinguish this form from all others in the present group, except the race to be described next, *enriquilloensis.* However, in some specimens these are not entirely evident. The latter form, however, differs in having a decided suppression of the dorsal pattern including absence of the scapular spot, which is almost always present in both sexes of the typical form. Also, *enriquilloensis* has keeled throat scales, atlhough less strongly keeled than other forms covered in this work. *S. b. brevirostratus* belongs to the stocky, small, blunt-snouted group which includes, aside from the race mentioned above, *noblei* and *darlingtoni* about to be described as new also. *S. armstrongi* Noble and Hassler may possibly also belong to this group. The separation from *S. n. difficilis,* with which it was formerly confused, is covered in the diagnosis.

SPHAERODACTYLUS BREVIROSTRATUS ENRIQUILLOENSIS subsp. nov.

Holotype: MCZ 57846, a male, from 4 km east of La Descubierta, near Lake Enriquillo, Independencia, Dominican Republic, collected by Clayton E. Ray and A. Stanley Rand, August 22, 1958.

Paratypes: All from the DOMINICAN REPUBLIC. *Independencia.* With the same data as the type: MCZ 57847-8; La Descubierta: AMNH 45125, G. K. Noble, September 25, 1922; Las Baitoas, Lake Enriquillo: AMNH 50153-63, William G. Hassler, August 5, 1935, AMNH 50205-09, William G. Hassler, August 5-8, 1935. *Barahona.* Barahona: AMNH 50118, William G. Hassler, June 23, 1935.

Diagnosis. This new form differs from the nominate subspecies in less blunt snout (overlap in this character), average larger scale counts as follows, the count of the type followed by those of the paratypes in parentheses: standard distance 7 (6-8), rear of hind limb to front of shoulder 31 (32-37), around body at midbody 46 (40-47), lamellae under fourth toe 10 (9-10, with one specimen at 11), and general reduction of the color pattern (in alcohol). There is also more keeling of throat scales than in the typical form. In the males, female head pattern virtually non-existent, sometimes heavily spotted, especially above, or virtually unmarked. The type is much spotted above, and below, on the head and throat, also showing evidence of the ventral lines of the typical form. In general these seem less developed in *enriquilloensis* than in *brevirostratus.* The female often lacks the head markings and, when present, there is only a rather indistinct replica of those of the typical form. Females may be virtually unmarked. Both sexes lack any scapular spot.

Measurements (in mm). Type, MCZ 57846: length, head and body, 23; tail missing. Largest paratypes, AMNH 50209, female, and AMNH 50118, male: head and body, 26; 50209 tail regenerated, 50118 tail missing.

Remarks. A specimen of *Sphaerodactylus notatus difficilis,* already referred to, from Paradis (Paraiso), seems to be the nearest approach to sympatry between that taxon and *brevirostatus.* The locality is, however, *south* of that of the nearest *b. enriquilloensis* (Barahona) on the Barahona peninsula, well south of the Cul de Sac Plain. No other *difficilis* is known from the "south island," and the record may be an error of locality labelling.

Identification aids. As stated under the nominate form, this is one of those with keeled throat scales. This character, and the presence of longitudinal ventral streaks and suppression of dorsal color pattern, will serve to distinguish it from the other forms.

The following species is named for Dr. P. J. Darlington, Jr., the collector and the major student of West Indian zoogeography.

SPHAERODACTYLUS DARLINGTONI sp. nov.

Sphaerodactylus difficilis: Cochran, 1941: 115 (part).

Holotype: MCZ 44380, a male, from Mt. Diego de Ocampo, summit dome, *ca.* 4000 feet, between Puerto Plata and Santiago, Dominican Republic, collected by P. J. Darlington, Jr., July 1938.

Paratype: MCZ 44379, with the same data as the type.

Diagnosis. Apparently most closely related to *S. noblei,* described below, differing in coloration and possibly slightly larger size, and also in the absence of distinctly keeled scales on the throat, in more lamellae under 4th toe, more dorsal scales from rear of hind limb to front of shoulder, and in having one small scale instead of two in contact with rear of nostril scale.

Description. (Paratype variation in parentheses.) Snout short, blunt; distance from eye to tip of snout about equal to that of eye to ear; rostral with median groove; nostril between first supralabial, a large supranasal and two smaller scales; supranasals separated by one scale; three large and one small supralabial to below center of eye (four and one on left side; small scale behind center of eye on right side, although the three and one formula mentioned for the type exists here); head above and on sides covered with small, juxtaposed, keeled scales, larger and mostly keeled on snout; scales on dorsum enlarged, elongate, keeled, and subimbricate; the more granular scales of the neck appear anterior to the forward level of the shoulder, the dorsals, however, decidedly smaller than those located more posteriorly, at the point just mentioned; scales in standard distance 7 (9); 45 dorsal scales between rear of hind limb and front of shoulder (43); 54 scales around the body at midbody (48) (in both type and paratype there is an incision at the side of the belly where it is suspected some scales may be missing, hence the two counts may be lower than they should be); 12 lamellae under 4th toe; mental somewhat larger than rostral; two large infralabials followed by a small one to center of eye; two small squarish scales behind the mental (more irregularly shaped); somewhere behind the two just mentioned, scales decreasing in size posteriorly to throat, increasing in size on throat and chest and again on belly, smooth, unless it can be said some of the throat scales are very weakly keeled; base of tail, above, with scales like those of dorsum but more imbricate and slightly larger; posteriorly, scales abruptly smaller where regenerated; tail, below, with scales like those of belly but abruptly smaller under regenerated portion. It may be stated for the sake of clarity that both the type and the paratype have much of the tail regenerated.

Coloration in alcohol. Above, light brown, a very few dark brown spots on back and on head, particularly in loreal region; a blurred dark brown scapular spot; below, brownish white, a few obscure dark brown markings on throat and underside of head; the paratype, also a male, shows a persistence of what is probably the female and immature pattern; above, ground color slightly darker than that of type; a brownish black scapular spot, rather indistinct, with an obscure whitish line just preceding it and following a dark brown line from nostril to eye, emerging on the posterior side of eye and curving to meet its fellow from the opposite eye, forming a marking on the back of the head like that of *b. brevirostratus* and *noblei* but not shaped like the top of a heart; posterior lines just mentioned likely to be bordered with whitish and broken; inside the figure produced by the lines, dark and light mottlings and markings; elsewhere on back, a few, more than in type, small dark brown spots; below, brownish white, more or less powdered and marked with darker brown, a reticulate pattern of whitish and dark brown on underside of head and throat.

Measurements (in mm). Type, MCZ 44380: length, head and body, 26; tail regenerated. Paratype, MCZ 44379: head and body, 22; tail regenerated.

Identification aids. The very blunt snout, the absence of any ventral keeling, small size, and small scales are a combination of characters that will separate this species from all forms covered here.

The next species is named for the late G. K. Noble, the collector, whose work in Hispaniolan herpetology is especially important.

SPHAERODACTYLUS NOBLEI sp. nov.

Holotype: AMNH 45216, a male, from Los Bracitos, Duarte, Dominican Republic, collected by G. K. Noble, August 1929.

Paratypes: AMNH 45203, 45205, 45208, 45213, with the same data as the type.

Diagnosis. Allied to *S. notatus difficilis* Barbour from which the new form differs in more stocky build, smaller size, and coloration. Also allied to *S. b. brevirostratus* from which the new form differs in smaller scales or larger scale counts (slight overlap in longitudinal and standard distance counts), color, and seemingly smaller size.

The new form also differs from both in possessing distinctly keeled throat scales.

Description. (Paratype variation in parentheses.) Snout short, blunt; distance of eye from tip of snout slightly greater than distance of eye to ear; rostral with median groove; nostril between rostral, first supralabial, a large supranasal, and two smaller scales; supranasals separated by two scales (separated by one scale, at least one specimen giving the impression that the one scale has been made by the fusion of two); three large and one small supralabial to below center of eye; head above and on sides covered with small, juxtaposed, keeled scales, larger and mostly keeled on snout, scales on dorsum enlarged, elongate, keeled and subimbricate; the more granular scales of the neck appear anterior to the forward level of the shoulder, the dorsals, however, decidedly smaller than those located more posteriorly, at the point just mentioned; scales in standard distance 8(8-9); 35 dorsal scales between rear of hind limb and front of shoulder (35-38); 51 scales around the body at midbody (50-55); 11 lamellae under the 4th toe (9-11); mental somewhat larger than rostral; two large infralabials followed by a small one to center of eye; two small, rather irregularly shaped scales behind the mental; behind the two just mentioned, the scales decreasing in size posteriorly to throat, increasing in size on throat and chest and again on belly, smooth, except that the throat scales and to some extent those further forward, nearly to chin shields, are distinctly keeled; tail, above, with scales like those of dorsum, more imbricate, but about the same size or possibly slightly larger at the base, not keeled near terminus; below, with scales like those of belly.

Coloration in alcohol. Above, ground color brown, markings very similar to those of *S. b. brevirostratus* but less distinct, a dark brown line extending from nostril through eye and joining its fellow in a marking which resembles the top of a heart with the direction of the apex toward the snout; within the area enclosed by the streaks just mentioned the ground color becomes pale, especially near the lines themselves; within this area a broken line proceeding backward from each eyelid on to the top of the head; other similar but obscure markings between the eyes and nearby and on the snout; a very indistinct suggestion of a second heart-shaped figure behind the first, with also a suggestion of lightening inside; on the neck an indistinct scapular spot consisting of a rather blurred dark brown spot preceded by a rather thin, rearwardly-curved, whitish, transverse line; elsewhere on back obscure dark brown spots with two very obscure whitish ones to the rear of two of the darker spots a bit behind the insertion of the forelimbs; an obscure whitish-bordered triangular spot at the base of the tail, the apex directed rearward; also obscure dark brown spots on the limbs and the rest of the tail, the latter rather densely spotted; a whitish dark brown bordered streak at the side of the base of the tail, extending on to rear of thigh; no whitish streak on side of body. Below, heavily dotted and dusted with brown, a line of small spots on the tail; throat and underside of head with a prominent black or dark brown and white reticulate pattern. Paratypic variation seems not extensive and sexual dichromatism seems to be very slight, if it exists at all, the single female paratype showing a fainter development of the pattern on throat and underside of head; otherwise all paratypes seem to be more obscurely marked above than the type, although one animal (not the female) shows two irregular white spots near the posterior edge of the indistinct scapular spot. Below, the only important difference, except that mentioned above, would be no line of spots under the tail (only two with tails, one detached).

Measurements (in mm). Type, AMNH 45216: length, head and body, 22; length, tail, 23. Largest paratype, AMNH 45213, a male: head and body, 24; tail missing.

Remarks. The following specimens, also from the Dominican Republic, tentatively referred to *noblei,* are not listed as paratypes. Boca del Infierno: USNM 74974-77, Gerrit S. Miller, Jr., February 28, 1928; Rio San Juan, Samana Peninsula: USNM 74943, Gerrit S. Miller, Jr., March 1928, but identified by Miss D. M. Cochran as *S. difficilis* (1941:115). These animals may belong to a distinct race. Thus the dorsal count from the rear of hind limb to the front of shoulder is 38-41 in the USNM examples above, whereas the count is 35-38 in the type series. The complete counts, given in the same order, are: 7-9 (10 for one immature), 38-41, 50-56, 9-11. Three of the former have this count of 38, although only one of the latter has that figure. The type series has all but one paratype with only one scale separating the supranasals rather than two, although one other animal has a single scale in this position which has the appearance of two fused. All of the non-paratypic series have the supranasals separated by two scales. In view of the overlap in characters in the two series, taxonomic separation seems undesirable with such a small number of specimens. On the other hand, the possibility that with more material further separation would be desirable prevented the inclusion of these specimens as paratypes. It is believed, in any case, that the two series indeed are specifically identical, even if not subspecifically so.

The USNM non-paratypic specimens show weak or obsolete pattern on throat and underside of head, but they are regarded as females except for one doubtful male and a female equally doubtful.

Identification aids. The dark brown or black and white reticulation of the underside of the throat and head will separate this form from the others of the group, although in some individuals, as stated before, this pattern is weak or obsolete.

SPHAERODACTYLUS ARMSTRONGI Noble and Hassler

Sphaerodactylus armstrongi Noble and Hassler, 1933: 5, mountain top on property of G. Herrmann, near Paradis, Barahona, Dominican Republic, 2400 feet. Cochran, 1941: 119.

MCZ 57820-21 are referred here with some doubt, as they do not entirely fit the characters of *armstrongi*. Available for comparison is a paratype of *armstrongi* from the type locality. The two referred specimens differ from *armstrongi* in showing no keeled throat or chest scales, larger scales (smaller scale counts), and slightly different coloration: difference in the size and shape of the white scapular spots and the absence of the white streak near the back of the head in the male individual.

These two individuals may possibly be hybrids between *armstrongi* and *S. brevirostratus enriquilloensis* where the former meets the latter on descending to the lowlands. It is also possible that some other lowland form, such as *S. notatus randi,* could be involved, instead, but this is considered more unlikely. Another possibility is that these represent a lowland race or species.

Until more material can be examined, no conclusions about these specimens can be arrived at. The paratype (AMNH 51469) has the following counts: standard distance 8, dorsal scales from rear of hind limb to front of fore limb 46; scales around body at midbody 61; lamellae under fourth toe 10. The corresponding counts for MCZ 57820-1 are: 10, 42-43, 52, 10, the figure for 57821, on the last count, being doubtfully 10.

The type and paratype had head and body lengths of 27 and 28 mm, respectively (both male), while the two referred specimens, in numerical order, had 21 and 22 for the same measurement (male and female). The first two measurements are those of Noble and Hassler.

Material examined: All from the DOMINICAN REPUBLIC. *Barahona.* 5 kilometers south of Cabral: MCZ 57820-1; on mountain top on property of G. Herrmann, 2400 feet, near Paradis: AMNH 51469 (paratype).

Identification aids. The white scapular spots will separate *armstrongi* from all others in the Hispaniolan *notatus* group (female color unknown) except the two MCZ specimens discussed here.

SPHAERODACTYLUS ALTAVELENSIS Noble and Hassler

Sphaerodactylus altavelensis Noble and Hassler, 1933: 7, Alta Vela Island, Dominican Republic.

This form appears related to *S. notatus randi.* There is great similarity in color pattern, the main difference being a decidedly more definite arrangement of head markings in the female and immature coloration of *altavelensis.* Scale counts of the two forms are close, but those around the body appear to average higher in *altavelensis.* However, *altavelensis* has distinctly keeled throat scales, unkown in any race of *notatus.* This difference seems to me sufficient to maintain *altavelensis* as a full species. *S. notatus randi* appears to differ from *S. notatus difficilis* chiefly in coloration, the coloration in fact being more different between *randi* and *difficilis* than between the former and *altavelensis.*

The head and body length of MCZ 45947, a female paratype, is 29 mm, while Noble and Hassler give the length of the type of *altavelensis* as 26.5 mm, whereas the largest *randi* (the type) was 29 mm for this measurement. The scale counts follow: scales in standard distance 8-9; dorsal scales from rear of hind limb to front of fore limb 39-43; scales around body at midbody 54-56; lamellae under 4th toe 11-13.

Material examined: DOMINICAN REPUBLIC. *Pedernales.* Alta Vela Island: MCZ 45946-7 (paratypes).

Identification aids. The only form with keeled throat scales with which there is overlap in the scale counts (except standard distance) is *noblei.* The latter is distinguished by its blunt snout and distinctive ventral coloring and smaller size (see *noblei).*

The next form is named for William J. Clench, the collector, who has always had a special interest in the West Indies.

SPHAERODACTYLUS CLENCHI sp. nov.

Sphaerodactylus difficilis: Mertens, 1939: 43 (part); Cochran, 1941: 115 (part), including plate on page 116.

Holotype: MCZ 43706, a male, from Samana (= Santa Barbara de Samana), Samana, Dominican Republic, collected by William J. Clench, August 1937.

Paratypes: DOMINICAN REPUBLIC. All from *Samana.* With the same data as the type: MCZ 43707-9, 57151-65, USNM 107621-30; the same locality, Samana (Santa Barbara de Samana): AMNH 40630 and 19 untagged examples, William G. Hassler, October-December 1929, AMNH 40110, 90167, J. King, 1929; larger of three islands near Las Flechas: AMNH 41987, William G. Hassler, November 9, 1929; Rio San Juan: USNM 74942, Gerrit S. Miller, Jr., March 1927; "Samana and Laguna": USNM 65781, W. L. Abbott, March 1923; Sanchez: CM 8169, FMNH 5963 (4 specimens), Emil Kaempfer, March 1924; just Samana Province (no more exact locality): USNM 75001-2, Gerrit S. Miller, Jr., February 22, 1925, AMNH 49882, William G. Hassler, July 28, 1935; Samana, whether city or province unknown: MCZ 5451, M. A. Frazar, June 1882.

Diagnosis. Apparently most closely related to *S. caicosensis* Cochran from which it differs in having a longer snout, a larger number of lamellae under the 4th toe (overlap in one specimen of *caicosensis,* i.e. 12-14 [15] in 63 specimens of *clenchi* as compared with 9-11 [12] in *caicosensis);* it also differs in coloration: both sexes of *clenchi* are variously spotted and marked with darker and sometimes lighter, while female *caicosensis* is barred, and markings are wholly or mostly confined to the head in the male. The new form is less closely related to *S. notatus difficilis* but has been confused with that form, from which it differs in much smaller scales and in coloration.

Description. (Paratype variation in parentheses.) Snout of moderate length and acuteness; distance of eye from tip of snout greater than distance of eye to ear; rostral with median groove; nostril between supranasals separated by one scale (one specimen with them in contact, three with them separated by two scales); three large and one small supralabial to below center of eye; head above and on sides covered with small juxtaposed keeled scales, larger and mostly keeled on snout; scales on dorsum enlarged, elongate, keeled, and subimbricate; the more granular scales of the neck appear anterior to the forward level of the shoulder, the dorsals, however, decidedly smaller than those located more posteriorly at the point just mentioned (also in paratypes); scales in standard distance 14 (11-14, subadults sometimes going to 16); 52 dorsal scales between rear of hind limb and front of shoulder (45-60); 62 scales around body at midbody (53-68); 13 lamellae under the 4th toe (12-14 [15 in one specimen]); mental somewhat larger than rostral; two large infralabials followed by a small one to center of eye; two small, rather irregularly shaped scales behind the mental; behind these the scales decrease in size posteriorly to throat, increase in size on throat and chest and again on belly; smooth, except some very slight keeling on throat (also in some of the paratypes); tail in type regenerated, that of paratype MCZ 43707 apparently not, showing scales like those of dorsum, more imbricate and somewhat larger near base, not keeled near terminus; below, with scales like those of belly, but larger.

Coloration in alcohol. Above, light brown, heavily dotted, spotted, and vermiculated with dark brown including head, limbs and tail. Below, brownish white, underside of head and throat dotted with dark brown, elsewhere slightly washed or marked with the same color, especially at the sides of the belly.

In the paratypes, both above and below, often less heavily marked than the type, some of both sexes being virtually unmarked. Above, female and immature specimens tend to have the spots or dots on the neck and posterior part of the head arranged in longitudinal rows. Both sexes sometimes have whitish spotting on the body and one or more short longitudinal streaks of the same color starting at the posterior part of the eye and extending on to the neck.

Measurements (in mm). Type, MCZ 43706: length, head and body, 33; tail regenerated. Largest paratypes, duplicates with AMNH 40630 (2): head and body, 34; tail broken off and missing.

Remarks. At Sanchez, both the new form and *S. notatus difficilis* occur.

It was first thought that the two specimens (MCZ 44395-6) from Sanchez might be intermediate between *clenchi* and *difficilis;* the scale counts of both seemed rather high. The higher dorsal count from rear of hind limb to front of forelimb, at 43, was one higher than the highest for other *difficilis,* while the higher count around the body, at 54, was just equaled by other *difficilis.* The 10 for the standard distance of both these examples is one higher than the highest for the other *difficilis.* However, these two show typical *difficilis* coloration (male and female), and the examples of *clenchi* from Sanchez appear to be typical. There is, therefore, no real evidence of hybridization or intergradation. *S. caicosensis* appears to be the nearest relative of *clenchi* but presents enough differences to be regarded also as specifically distinct.

Since what is known as the Samana Peninsula is at best incompletely joined to the main island of Hispaniola even now, and formerly, even in historic times, was completely separated from it, there is an evident bar to the dispersal of *clenchi,* especially in more modern times. See Chapman Grant (1956:89).

Mertens (1939:43), under the heading of *Sphaerodactylus difficilis,* notes the smaller scales of Samana specimens as compared with the other specimens discussed. However, he did not believe he had sufficient material to name any of the populations discussed.

Identification aids. This form is characterized by its small scales, showing but little evidence of overlap in scale counts with other forms of the group. Most overlap is shown with some of the group with keeled throat scales.

SPHAERODACTYLUS SAMANENSIS Cochran

Sphaerodactylus samanensis Cochran, 1932: 183, Boca del Infierno, Samana Bay, Dominican Republic.

Jay M. Savage (1954:328) regarded *samanensis* as a synonym of *S. n. difficilis.* However, what Savage regarded as *difficilis* has been here described as yet another race of *notatus (savagei).* No real scale differences between *difficilis* and *savagei* have been found, the differences being chiefly in coloration and in the shape of the male escutcheon. *S. samanensis,* on the other hand, differs from *savagei* in having the supranasals in contact, an extension rearward of the dorsal neck granules to the level of the insertion of the fore limb, and paired dorsal bands in the female (the only sex known). The scale counts for the three paratypes viewed are as follows: in standard distance 8-9; dorsal scales from rear of hind limb to front of shoulder 36-38; scales around body at midbody 44-47; lamellae under 4th toe 12-13. The largest paratype had a head and body length of 28 mm, one more than Miss Cochran's measurement for the type.

Material examined: DOMINICAN REPUBLIC. *Seibo.* Boca del Infierno: USNM 74971-3 (paratypes).

Identification aids. This form can be distinguished from all others treated here by having its supranasals in contact (a rare variation in *S. n. difficilis),* an extension rearward of the dorsal neck granules to the level of the shoulder, and the regular paired bands in the female (the only sex known). The bands of *S. n. juanilloensis* suggest these but are not evenly formed.

Key to the SPHAERODACTYLUS NOTATUS *group in Hispaniola*

1. Ventral scales smooth 6
   Ventral scales smooth except for keeled scales on throat or on throat and chest 2
2. Scales around middle of body 40-47 3
   Scales around middle of body 50-61 4
3. Throat scales slightly keeled over a limited area; lamellae under 4th toe usually 9-10; no scapular spot; maximum head and body length 26 mm .... *brevirostratus enriquilloensis*
   Throat scales well keeled over a considerable area; lamellae under 4th toe 11; large, black square scapular spot; maximum head and body length 31 mm (only known from one male) .... *lazelli*
4. Scales around middle of body 50-56, only throat scales keeled 5
   Scales around middle of body 61; chest scales as well as throat scales keeled; a curved, white streak on back of head; two white spots on dorsum at level of shoulders (female color unknown) .. *armstrongi*[1]
5. Dorsal scale count from rear of hind limb to front of shoulder 35-41; lamellae under 4th toe 9-11; throat black, spotted or marked with white, intensity variable; maximum head and body length 24 mm .... *noblei*
   Dorsal scale count from rear of hind limb to front of shoulder 39-43; lamellae under 4th toe 11-13; throat whitish, speckled with dark brown; maximum head and body length 29 mm .... *altavelensis*
6. Dorsal scale count from rear of hind limb to front of shoulder 25-45; scales around middle of body 37-54 7
   Dorsal scale count from rear of hind limb to front of shoulder 45-60; scales around middle of body 53-68 .... *clenchi*

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[1] Not included in key are two specimens referred with doubt to *armstrongi.* See under species heading the account of their variation.

7. Dorsal coloration without paired bands (unpaired bands in immature of *savagei*), or if paired, separated by pale color; supranasals usually separated, dorsal neck granules not extending to level of front of fore limb 8
   Dorsal coloration with paired bands (male coloration unknown), supranasals in contact, dorsal neck granules extending to level of front of fore limb .... *samanensis*
8. Usually well-defined, dark, longitudinal streaks on venter, curved heart-shaped streak on back of head (like top of heart with the possible apex toward the snout), pale color inside this marking, sometimes a second, less distinct streak, following first. In males these head markings may become entirely obsolete, reduced to a few specks; scapular spot quite persistent even in males ...... *b. brevirostratus*
   No longitudinal ventral streaks; if a curved streak on back of head, this not heart-shaped or enclosing a lighter area; scapular spot present or absent 9
9. Above virtually unmarked, vestige of scapular spot (male coloration only known); snout very short; maximum length of head and body 26 mm .... *darlingtoni*
   Above variously spotted, marked and banded with darker; snout not very short; maximum lengths of head and body 29-33 mm 10
10. Above heavily spotted, banded or washed with darker, male sometimes unmarked, with light head spotted with dark; female also sometimes with curved band on back of head, sometimes melanistic without markings 11
    Three longitudinal dark streaks on dorsal aspect of head and neck in female. Body of male usually rather obscurely speckled with darker, and head unmarked. Sometimes head lighter, marked with darker or speckles both on head and body .... *notatus difficilis*
11. Scales, rear of hind limb to front of fore limb 36-44; scales around body at midbody 48-54 .... *notatus randi*
    Scales, rear of hind limb to front of fore limb 25-34; scales around body at midbody 36-48 12
12. Scales around body at midbody 36-44; heavily spotted above including head. Females with some development of obscure head stripes. Immatures with bars on back .... *notatus savagei*
    Scales around body at midbody 40-48; females often showing paired crossbars separated by lighter on back, two head stripes joining on rear of head. Males spotted above, showing tendency for spots to form into crossbars .... *notatus juanilloensis*

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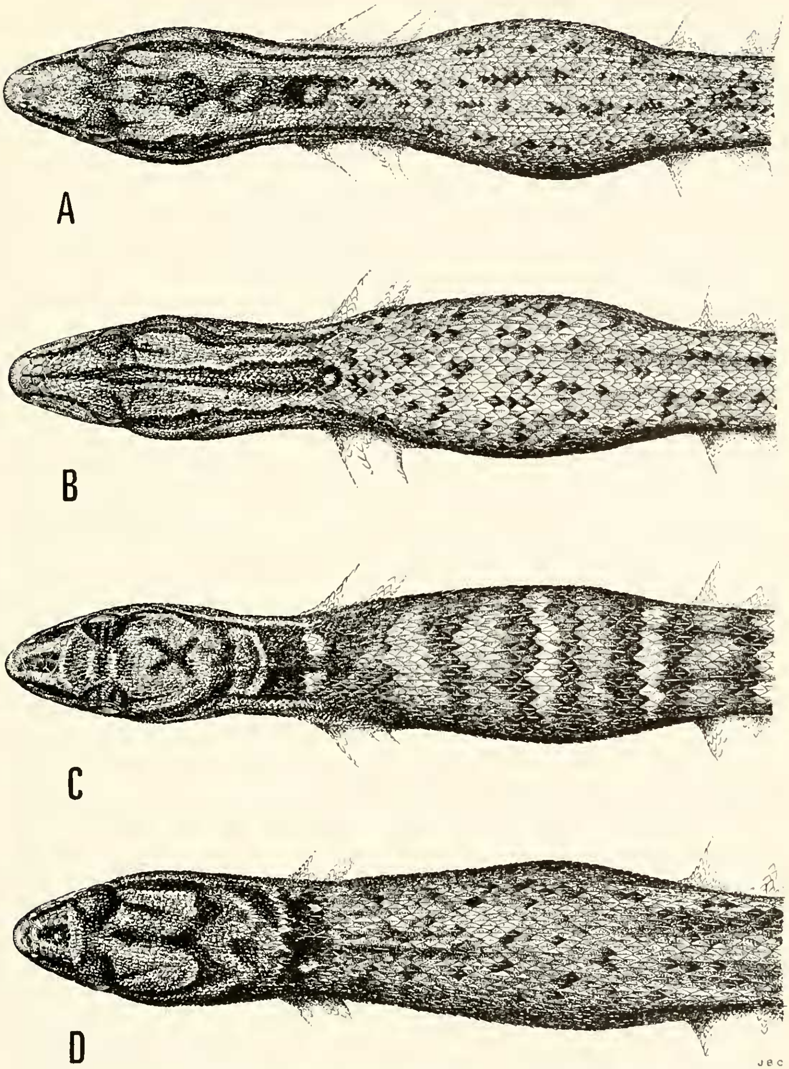

Fig. 1. A, *Sphaerodactylus notatus difficilis,* MCZ 78733, Licey Almedio, Prov. Santiago, Dominican Republic. B, *S. notatus notatus,* MCZ 31638, Key West, Florida. C, *S. notatus juanilloensis* holotype, MCZ 73901, Juanillo, Prov. Altagracia, Dominican Republic. D, *S. brevirostratus brevirostratus* holotype. MCZ 63234, 5 km S of Dufort, S of Leogane, Dept. de l'Ouest, Haiti.

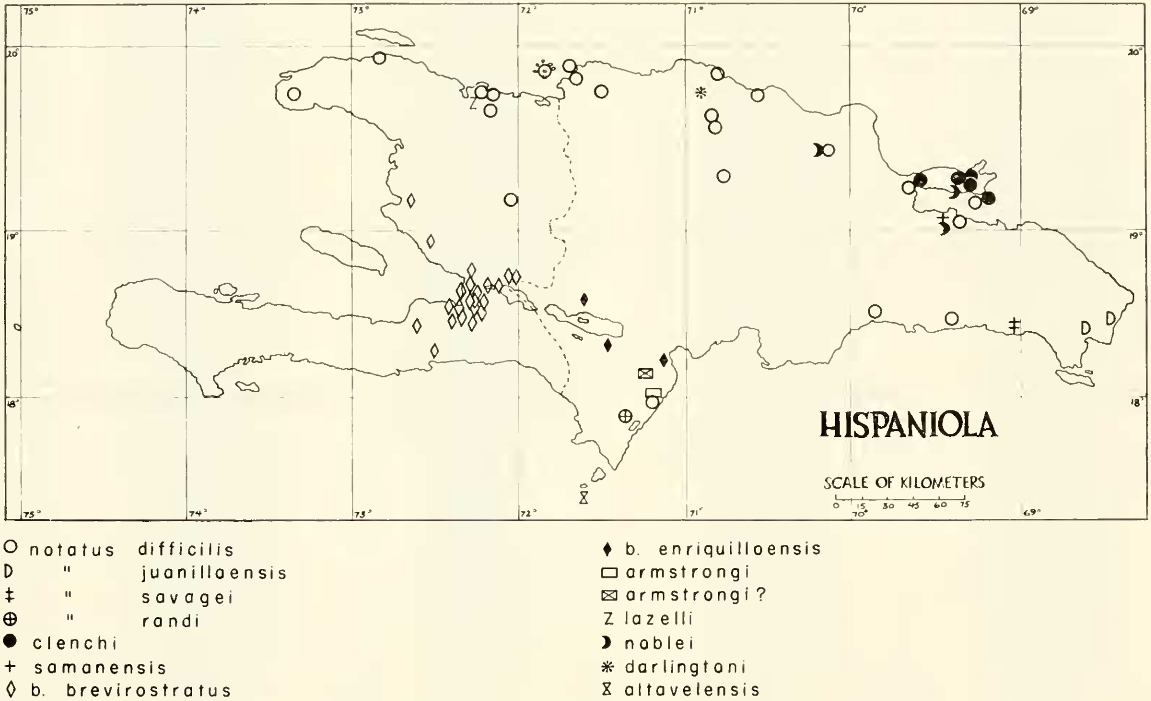

Fig. 2. Distribution of forms of the *Sphaerodactylus difficilis* group in Hispaniola.